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Applicants : Kenneth (NMI) Schofield, Mark L. Larson and Keith J. Vadas
For : DISPLAY ENHANCEMENTS FOR VEHICLE
VISION SYSTEM
Page : 2

51. The rearview vision system for a vehicle in claim 50 wherein said image is enhanced by a graphic overlay superimposed on the displayed image indicating distances of objects from the vehicle.

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52. The rearview vision system of claim 51 wherein said graphic overlay comprises at least one horizontal mark superimposed on the displayed image.

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53. The rearview vision system for a vehicle in claim 52 wherein said at least one horizontal mark is adjusted in response to vehicle speed.

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54. The rearview vision system for a vehicle in claim 52 wherein said at least one horizontal mark comprises a plurality of short horizontal lines superimposed on the image at regular rearward intervals.

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55. The rearview vision system for a vehicle in claim 54 wherein said lines are positioned to correspond to boundaries of the lane in which the vehicle is travelling.

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56. The rearview vision system for a vehicle in claim 55 wherein said lines are moved laterally to correspond to positions of curved lane boundaries when the vehicle is turning.

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57. The rearview vision system in claim 56 including a monitoring device for monitoring vehicles turning.

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Applicants : Kenneth (NMI) Schofield, Mark L. Larson and Keith J. Vadas
For : DISPLAY ENHANCEMENTS FOR VEHICLE
VISION SYSTEM
Page : 3

9

56. The rearview vision system in claim ~~51~~ wherein said monitoring device comprises one of a monitor of movement of the vehicle's steering system, a monitor of an output of an electronic compass, and a monitor of the vehicle's differential drive system.

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57. The rearview vision system in claim ~~50~~ wherein said image is enhanced by a graphic overlay superimposed on the displayed image including indicia of the anticipated travel of the vehicle.

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60. The rearview vision system in claim ~~59~~ wherein said graphic overlay is disabled when the vehicle's gear actuator is not in reverse gear.

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61. The rearview vision system in claim ~~50~~ wherein said at least one image capture device comprises at least two image capture devices positioned on opposite lateral sides of said vehicle and wherein said display system displays an image synthesized from outputs of said image capture devices which approximates a rearward-facing substantially seamless panoramic view.

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62. The rearview vision system in claim ~~61~~ wherein said display system includes a display surface for displaying said outputs of both said image capture devices.

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63. The rearview vision system in claim ~~61~~ wherein each of said image capture devices is a CMOS imaging array.

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Applicants : Kenneth (NMI) Schofield, Mark L. Larson and Keith J. Vadas
For : DISPLAY ENHANCEMENTS FOR VEHICLE
VISION SYSTEM
Page : 4

15

64. The rearview vision system in claim 50 wherein said at least one image capture device comprises at least three image capture devices including at least two side image capture devices positioned on opposite lateral sides of said vehicle and at least one center image capture device laterally between said side image capture devices and wherein said display system displays an image synthesized from outputs of said image capture devices which approximates a rearward-facing substantially seamless panoramic view.

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65. The rearview vision system in claim 64 wherein said at least three image capture devices are at substantially the same height.

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66. The rearview vision system in claim 64 wherein said display system includes a display surface for displaying said outputs of both said image capture devices.

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67. The rearview vision system in claim 64 wherein each of said image capture devices comprises a CMOS imaging array.

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68. The rearview vision system in claim 50 wherein said at least one image capture device comprises a CMOS imaging array.

69. A rearview vision system for a vehicle, comprising:

at least one image capture device positioned on the vehicle and directed rearwardly with respect to the direction of travel of the vehicle; and

Applicants : Kenneth (NMI) Schofield, Mark L. Larson and Keith J. Vadas
For : DISPLAY ENHANCEMENTS FOR VEHICLE
VISION SYSTEM
Page : 5

Sub C

a display system which displays an image from said at least one image capture device;
wherein said display system enhances the displayed image by visually highlighting
hazards in the area surrounding the vehicle.

70. The rearview vision system in claim 69 wherein said highlighting hazards includes at
least one of displaying the hazard in a particular color and flashing the image of the hazard.

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71. The rearview vision system in claim 69 wherein said hazards include objects too close
to said vehicle for safe lane-change maneuver.

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72. A rearview vision system in claim 70 wherein said highlighting hazards includes at
least one of displaying the object too close to said vehicle in a particular color and flashing the
image of the object too close to said vehicle.

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73. The rearview vision system in claim 69 including a speed transducer which provides an
input to said display system such that a determination that objects are too close to said vehicle
is a function of vehicle speed.

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74. The rearview vision system in claim 69 wherein said display system responds to
activation of the vehicle turn signal to visually highlight objects too close to said vehicle.

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Applicants : Kenneth (NMI) Schofield, Mark L. Larson and Keith J. Vadas
For : DISPLAY ENHANCEMENTS FOR VEHICLE
VISION SYSTEM
Page : 6

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75. The rearview vision system in claim 69 including a sensing system for sensing distance of objects from the vehicle.

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76. The rearview vision system in claim 75 wherein said sensing system comprises one of radar, ultrasonic sensing and infrared detection.

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77. The rearview vision system in claim 69 wherein said at least one image capture device comprises at least two image capture devices positioned on opposite lateral sides of said vehicle and wherein said display system displays an image synthesized from outputs of said image capture devices which approximates a rearward-facing substantially seamless panoramic view.

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78. The rearview vision system in claim 77 wherein said at least two image capture devices include stereoscopic distance-sensing capabilities.

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79. The rearview vision system in claim 77 wherein said display system includes a display surface for displaying said outputs of both said image capture devices.

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80. The rearview vision system in claim 77 wherein each of said image capture devices is a CMOS imaging array.

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Applicants : Kenneth (NMI) Schofield, Mark L. Larson and Keith J. Vadas
For : DISPLAY ENHANCEMENTS FOR VEHICLE
VISION SYSTEM
Page : 7

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81. The rearview vision system in claim 69 wherein said at least one image capture device comprises at least three image capture devices including at least two side image capture devices positioned on opposite lateral sides of said vehicle and at least one center image capture device laterally between said side image capture devices and wherein said display system displays an image synthesized from outputs of said image capture devices which approximates a rearward-facing substantially seamless panoramic view.

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82. The rearview vision system in claim 81 wherein said at least three image capture devices are at substantially the same height.

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83. The rearview vision system in claim 81 wherein said display system includes a display surface for displaying said outputs of both said image capture devices.

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84. The rearview vision system in claim 81 wherein each of said image capture devices is a CMOS imaging array.

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A rearview vision system for a vehicle, comprising:
at least one image capture device positioned on the vehicle and directed rearwardly with respect to the direction of travel of the vehicle; and
a display system which displays an image from said at least one image capture device;

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Applicants : Kenneth (NMI) Schofield, Mark L. Larson and Keith J. Vadas
For : DISPLAY ENHANCEMENTS FOR VEHICLE
VISION SYSTEM
Page : 8

wherein said display system includes a graphic overlay superimposed on the displayed image indicating distances of objects from the vehicle and visually highlighting of images of objects too close to the vehicle for safe lane-change maneuver.

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86. The rearview vision system in claim 85 wherein said visually highlighting includes at least one of displaying the object too close to said vehicle in a particular color and flashing the image of the object too close to said vehicle.

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87. The rearview vision system in claim 85 wherein said graphic overlay comprises at least one horizontal mark superimposed on the displayed image.

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88. The rearview vision system in claim 85 including a monitoring device for monitoring vehicles turning.

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89. The rearview vision system in claim 88 wherein said monitoring device comprises one of a monitor of movement of the vehicle's steering system, a monitor of an output of an electronic compass and a monitor of the vehicle's differential drive system.

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90. The rearview vision system in claim 88 including a speed transducer wherein said graphic overlay is adjusted in response to vehicle speed and highlighting of objects too close to said vehicle is a function of vehicle speed.

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Applicants : Kenneth (NMI) Schofield, Mark L. Larson and Keith J. Vadas
For : DISPLAY ENHANCEMENTS FOR VEHICLE
VISION SYSTEM
Page : 9

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91. The rearview vision system in claim 85 wherein said display system responds to activation of the vehicle turn signal to visually highlight objects too close to said vehicle.

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92. The rearview vision system in claim 85 wherein said at least one image capture device comprises at least two image capture devices positioned on opposite lateral sides of said vehicle and wherein said display system displays an image synthesized from outputs of said image capture devices which approximates a rearward-facing substantially seamless panoramic view.

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93. The rearview vision system in claim 92 wherein said display system includes a display surface for displaying said outputs of both said image capture devices.

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94. The rearview vision system in claim 92 wherein each of said image capture devices is a CMOS imaging array.

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95. The rearview vision system in claim 92 wherein said at least two image capture devices include stereoscopic distance-sensing capabilities.

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96. The rearview vision system in claim 85 wherein said at least one image capture device comprises at least three image capture devices including at least two side image capture devices positioned on opposite lateral sides of said vehicle and at least one center image capture device laterally between said side image capture devices and wherein said display

36

Applicants : Kenneth (NMI) Schofield, Mark L. Larson and Keith J. Vadas
For : DISPLAY ENHANCEMENTS FOR VEHICLE
VISION SYSTEM
Page : 10

system displays an image synthesized from outputs of said image capture devices which approximates a rearward-facing substantially seamless panoramic view.

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97. The rearview vision system in claim 96 wherein said at least three image capture devices are at substantially the same height.

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98. The rearview vision system in claim 96 wherein said display system includes a display surface for displaying said outputs of both said image capture devices.

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99. The rearview vision system in claim 96 wherein each of said image capture devices is a CMOS imaging array.

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100. The rearview vision system in claim 86 including a sensing system for sensing distance of objects from the vehicle.

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101. The rearview vision system in claim 100 wherein said sensing system comprises one of radar, ultrasonic sensing and infrared detection.

102. A vision system for a vehicle, comprising:

at least one image capture device positioned on the vehicle; and

a display system which displays an image from said at least one image capture device;

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Applicants : Kenneth (NMI) Schofield, Mark L. Larson and Keith J. Vadas
For : DISPLAY ENHANCEMENTS FOR VEHICLE
VISION SYSTEM
Page : 11

wherein said display system enhances the displayed image by visually informing the driver of what is occurring in the area surrounding the vehicle.

103. The vision system for a vehicle in claim 102 wherein said image is enhanced by a graphic overlay superimposed on the displayed image indicating distances of objects from the vehicle.

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104. The vision system of claim 103 wherein said graphic overlay comprises at least one horizontal mark superimposed on the displayed image.

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105. The vision system for a vehicle in claim 104 wherein said at least one horizontal mark is adjusted in response to vehicle speed.

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106. The vision system for a vehicle in claim 104 wherein said at least one horizontal mark comprises a plurality of short horizontal lines superimposed on the image at regular spacial intervals.

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107. The vision system for a vehicle in claim 106 wherein said lines are positioned to correspond to boundaries of the lane in which the vehicle is travelling.

59 58
108. The vision system for a vehicle in claim 107 wherein said lines are moved laterally to correspond to positions of curved lane boundaries when the vehicle is turning.

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Applicants : Kenneth (NMI) Schofield, Mark L. Larson and Keith J. Vadas
For : DISPLAY ENHANCEMENTS FOR VEHICLE
VISION SYSTEM
Page : 12

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109. The vision system in claim 108 including a monitoring device for monitoring vehicles turning.

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110. The vision system in claim 109 wherein said monitoring device comprises one of a monitor of movement of the vehicle's steering system, a monitor of an output of an electronic compass, and a monitor of the vehicle's differential drive system.

111. The rearview vision system in claim 102 wherein said at least one image capture device comprises at least two image capture devices positioned on opposite lateral sides of said vehicle and wherein said display system displays an image synthesized from outputs of said image capture devices which approximates a substantially seamless panoramic view.

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112. The rearview vision system in claim 111 wherein said display system includes a display surface for displaying said outputs of both said image capture devices.

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113. The rearview vision system in claim 111 wherein each of said image capture devices is a CMOS imaging array.

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114. The rearview vision system in claim 102 wherein said at least ^{two} image capture devices are CMOS imaging array.